APPENDIX: RHODE ISLAND CANCER RATES, <u>1998-2002</u> PROVISIONAL DETAILED TABLES of CANCER INCIDENCE RATES

Introduction

The Rhode Island Cancer Registry maintains up-to-date cancer statistics for the State, including incidence rates, prevalence estimates, and mortality rates. The statistics are computed for the State as a whole and for counties. These latest **provisional incidence statistics** for the years **1998-2002**, were prepared in February, 2004.

Sources of Data

Age-adjusted incidence rates by sex and by race are computed from:

- case reports of newly diagnosed cancers made to the Rhode Island Cancer Registry
- counts of the Rhode Island population in the censuses of 1980, 1990, and 2000

Methods

Incidence rates and corresponding standard errors are calculated using SEERStat, software produced for public use by the Surveillance, Epidemiology, and End Results (SEER) Program of the National Cancer Institute. The algorithms for rates, as described in SEERStat documentation, are as follows:

Crude Rate

A crude rate is the number of cases per 100,000 in a given population.

$$cruderate = \frac{count}{population} \times 100,000$$

Age-adjusted Rate

An age-adjusted rate is a weighted average of crude rates, where the crude rates are calculated for different age groups and the weights are the proportions of persons in the corresponding age groups of a standard population. Several sets of standard populations are included in SEER*Stat. These include the total U.S. populations (1940, 1950, 1960, 1970, 1980, and 1990), an estimate of the U.S. 2000 population, 1991 Canadian population, and the world population. The age-adjusted rate for an age group comprised of the ages x through y is calculated using the following formula:

$$aarate_{x-y} = \sum_{i=x}^{y} \left[\left(\frac{counti}{pop_i} \right) \times 100,000 \times \left(\frac{stdmil_i}{\sum_{j=x}^{y} stdmil_j} \right) \right]$$

where count is the number of cases for the ith age group, pop_i is the relevant population for the same age group, and stdmil_i is the standard population for the same age group.

Standard Error for a Crude Rate

This calculation assumes that the cancer counts have Poisson distributions.

$$SE_{crude} = \frac{\sqrt{count}}{population} \times 100,000$$

Standard Error for an Age-adjusted Rate

This calculation assumes that the cancer counts have Poisson distributions. Suppose that the age-adjusted rate is comprised of age groups x through y.

$$SE_{\textit{AArate}} = \left[\sum_{i=x}^{y} \left(\frac{stdmil_i}{\sum_{j=x}^{y} stdmil_j} \right)^2 \times \left(\frac{count_i}{population_i^2} \right) \right]^{\frac{1}{2}} \times 100,000$$

Crude Rate Confidence Intervals

The endpoints of a p x 100% confidence interval are calculated as:

$$CI_{bw} = \frac{\left(\frac{1}{2}\left(ChiInv\left(\frac{p}{2},2\times count\right)\right)\right)}{population} \times 100,000$$

$$CI_{high} = \frac{\left(\frac{1}{2}\left(ChiInv\left(1-\frac{p}{2},2\times (count+1)\right)\right)\right)}{population} \times 100,000$$

where Chi Inv(p,n) is the inverse of the chi-squared distribution function evaluated at p and with n degrees of freedom, and we define Chi Inv (p,0) = 0.

Although the normal approximation may be used with the standard errors to obtain confidence intervals when the count is large, we use the above exact method that holds even with small counts (see Johnson and Kotz, 1969, or Fay and Feuer, 1997). When the count is large the 2 methods produce similar results.

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Age-adjusted Rate Confidence Intervals

Suppose that the age-adjusted rate is comprised of age groups x through y, and let:

$$w_{i} = \frac{stdmil_{i}}{\left(pop_{i} \times \sum_{j=x}^{y} stdmil_{j}\right)}$$

$$w_{m} = \max(w_{i})$$

$$v = \sum_{i=x}^{y} (w_{i}^{2} \times count_{i})$$

Cancer in Rhode Island

The endpoints of a p x 100% confidence interval are calculated as:

$$\begin{split} CI_{bw} &= \left(\frac{v}{2 \times rate}\right) \times \left(Chi \ln v \left(\frac{p}{2}, \frac{\left(2 \times rate^2\right)}{v}\right)\right) \times 100,000 \\ CI_{kigh} &= \left(\frac{v + w_{m}^2}{2 \left(rate + w_{m}\right)}\right) \times \left(Chi \ln v \left(1 - \frac{p}{2}, \frac{2 \left(rate + w_{m}\right)^2}{\left(v + w_{m}^2\right)}\right)\right) \times 100,000 \end{split}$$

This method for calculating the confidence interval was developed in Fay and Feuer (1997). The method produces similar confidence limits to the standard normal approximation when the counts are large and the population being studied is similar to the standard population. In other cases, the above method is more likely to ensure proper coverage.

Note

"Rate" used in the above formulas is not per 100,000 population.

Source

SEERStat Version 5.1.14, January 14, 2004.

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Table 1 Total Cancer Cases and Average Annual Age-adjusted Cancer Incidence Rates (U.S. Year 2000 Standard) Rhode Island, 1998-2002, All Races, by Sex and Anatomical Site

	Male	Males (All Races)		Femal	Females (All Races)		
SITES	<u>Count</u>	<u>Rate</u>	<u>SE</u>	<u>Count</u>	<u>Rate</u>	<u>SE</u>	
All Sites	15,119	628.9	5.1	14,315	444.5	3.8	
Oral Cavity and Pharynx	367	15.0	0.8	188	5.9	0.4	
Lip	28	1.3	0.2	17	0.5	0.1	
Tongue	103	4.2	0.4	54	1.8	0.2	
Salivary Gland	29	1.2	0.2	33	1.0	0.2	
Floor of Mouth	29	1.2	0.2	17	0.5	0.1	
Gum and Other Mouth	46	1.9	0.3	27	0.8	0.2	
Nasopharynx	19	0.8	0.2	5	0.2	0.1	
Oropharynx	23	0.9	0.2	10	0.4	0.1	
Hypopharynx	45	1.9	0.3	11	0.4	0.1	
Digestive System	3010	126.4	2.3	2935	83.5	1.6	
Esophagus	236	9.8	0.6	78	2.2	0.3	
Stomach	317	13.4	0.8	239 59	6.5 1.8	0.4	
Small Intestine Colon and Rectum	55 1789	2.3 75.3	0.3 1.8	1858	52.6	0.2 1.3	
Colon excluding Rectum	1237	52.4	1.5	1413	39.8	1.1	
Rectum and Rectosigmoid Junction	552	22.9	1.0	445	12.8	0.6	
Anus, Anal Canal and Anorectum	29	1.2	0.2	52	1.6	0.0	
Liver	160	6.5	0.5	67	2.0	0.2	
Intrahepatic Bile Duct	28	1.2	0.2	26	0.8	0.2	
Gallbladder	26	1.2	0.2	50	1.5	0.2	
Pancreas	296	12.5	0.7	373	10.5	0.6	
Respiratory System	2701	112.0	2.2	2063	63.7	1.4	
Larynx	201	8.4	0.6	57	1.7	0.2	
Lung and Bronchus	2417	100.1	2.0	1972	60.9	1.4	
Bones and Joints	17	0.7	0.2	14	0.5	0.1	
Soft Tissue including Heart	106	4.4	0.4	79	2.7	0.3	
Skin excluding Basal and Squamous	734	30.4	1.1	520	17.1	0.8	
Melanoma of the Skin	660	27.3	1.1	462	15.3	0.7	
Breast	27	1.2	0.2	4054	130.6	2.1	
Female Genital System	0	0.0	~	1570	51.1	1.3	
Cervix Uteri	0	0.0	~	206	7.3	0.5	
Corpus and Uterus, NOS	0	0.0	~	807	26.0	0.9	
Ovary Male Genital System	4441	0.0 183.8	2.8	406 0	13.2 0.0	0.7	
Prostate	4263	176.8	2.7	0	0.0	~	
Testis	148	5.8	0.5	0	0.0	~	
Penis	23	0.9	0.2	0	0.0	~	
Urinary System	1794	75.1	1.8	830	25.1	0.9	
Urinary Bladder	1249	52.7	1.5	482	14.3	0.7	
Kidney and Renal Pelvis	508	20.8	0.9	328	10.3	0.6	
Ureter	22	0.9	0.2	16	0.4	0.1	
Eye and Orbit	18	0.7	0.2	19	0.7	0.2	
Brain and Other Nervous System	193	7.8	0.6	176	5.8	0.4	
Brain	186	7.5	0.6	163	5.3	0.4	
Endocrine System	126	5.0	0.4	385	13.8	0.7	
Thyroid	113	4.5	0.4	367	13.2	0.7	
Lymphoma	650	26.7	1.1	633	19.5	0.8	
Hodgkin Lymphoma	89	3.5	0.4	76	2.7	0.3	
Non-Hodgkin Lymphoma	561	23.2	1.0	557	16.8	0.7	
Myeloma	152	6.5	0.5	157	4.6	0.4	
Leukemia	393	16.4	0.8	298	9.2	0.5	
Acute Lymphocytic Leukemia Chronic Lymphocytic Leukemia	53 120	2.2 5.0	0.3 0.5	35 81	1.4 2.3	0.2 0.3	
Acute Myeloid Leukemia	120	5.0 5.1	0.5	96	3.0	0.3	
Acute Monocytic Leukemia	123	0.2	0.5	3	0.1	0.3	
Chronic Myeloid Leukemia	48	2.0	0.1	43	1.3	0.1	
Miscellaneous	390	16.7	0.9	394	10.9	0.6	
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[~] Statistic could not be calculated.

Table 2 Total Cancer Cases and Average Annual Age-adjusted Cancer Incidence Rates (U.S. Year 2000 Standard) Rhode Island, 1998-2002, Whites, by Sex and Anatomical Site

Rhode Island, 1998-2002, Whites, b	y sex and Anato	omicai site				
	Mal	es (Whites)		Fema	ales (Whites	5)
SITES	<u>Count</u>	<u>Rate</u>	<u>SE</u>	<u>Count</u>	<u>Rate</u>	<u>SE</u>
All Sites	14613	652.9	5.4	13866	467.1	4.1
Oral Cavity and Pharynx	354	15.7	0.8	177	6.1	0.5
Lip	28	1.3	0.3	17	0.6	0.1
Tongue	102	4.5	0.4	51	1.8	0.3
Salivary Gland	27	1.2	0.2	32	1.0	0.2
Floor of Mouth Gum and Other Mouth	25 44	1.1 2.0	0.2 0.3	15 27	0.5 0.9	0.1 0.2
Nasopharynx	18	0.8	0.3	5	0.9	0.2
Oropharynx	23	1.0	0.2	9	0.4	0.1
Hypopharynx	43	1.9	0.3	9	0.3	0.1
Digestive System	2906	130.5	2.4	2845	86.2	1.7
Esophagus	230	10.3	0.7	75	2.3	0.3
Stomach	301	13.6	0.8	224	6.5	0.5
Small Intestine	52	2.3	0.3	58	1.9	0.3
Colon and Rectum	1746	78.5	1.9	1809	54.6	1.3
Colon excluding Rectum	1206	54.4	1.6	1380	41.4	1.1
Rectum and Rectosigmoid Junction	540	24.0	1.0	429	13.2	0.7
Anus, Anal Canal and Anorectum	28	1.3	0.2	51	1.7	0.2
Liver	147	6.5	0.5	64	2.0	0.3
Intrahepatic Bile Duct Gallbladder	26 23	1.1 1.1	0.2 0.2	26 48	0.8 1.6	0.2 0.2
Pancreas	23 286	12.9	0.2	359	1.6	0.2
Respiratory System	2608	115.6	2.3	1995	66.2	1.5
Larynx	187	8.4	0.6	54	1.7	0.2
Lung and Bronchus	2339	103.5	2.1	1908	63.4	1.5
Bones and Joints	15	0.7	0.2	12	0.5	0.1
Soft Tissue including Heart	104	4.8	0.5	74	2.8	0.3
Skin excluding Basal and Squamous	724	32.5	1.2	515	18.7	0.8
Melanoma of the Skin	656	29.4	1.2	458	16.8	0.8
Breast	24	1.1	0.2	3922	137.4	2.2
Female Genital System	0	0.0	~	1527	54.3	1.4
Cervix Uteri	0	0.0	~	196	7.9	0.6
Corpus and Uterus, NOS	0	0.0	~	790	27.7	1.0
Ovary	0	0.0	~	392	13.9	0.7
Male Genital System	4277 4106	189.7 181.9	2.9 2.8	0	0.0	~
Prostate Testis	144	6.6	0.6	0	0.0 0.0	~
Penis	21	0.0	0.0	0	0.0	~
Urinary System	1755	78.5	1.9	811	26.4	1.0
Urinary Bladder	1227	55.2	1.6	477	15.2	0.7
Kidney and Renal Pelvis	492	21.7	1.0	314	10.7	0.6
Ureter	21	1.0	0.2	16	0.4	0.1
Eye and Orbit	17	0.7	0.2	19	0.7	0.2
Brain and Other Nervous System	190	8.5	0.6	172	6.3	0.5
Brain	183	8.2	0.6	159	5.8	0.5
Endocrine System	120	5.4	0.5	359	14.7	0.8
Thyroid	108	4.8	0.5	342	14.1	0.8
Lymphoma	615	27.7	1.1	616	20.8	0.9
Hodgkin Lymphoma	84 531	3.9	0.4	71 545	2.9	0.4
Non-Hodgkin Lymphoma Myeloma	531 145	23.8 6.6	1.0 0.6	545	17.8 4.7	0.8
Leukemia	383	17.6	0.6	148 291	10.0	0.4 0.6
Acute Lymphocytic Leukemia	51	2.6	0.4	33	1.6	0.0
Chronic Lymphocytic Leukemia	118	5.3	0.5	81	2.4	0.3
Acute Myeloid Leukemia	119	5.4	0.5	91	3.1	0.3
Acute Monocytic Leukemia	6	0.3	0.1	3	0.1	0.1
Chronic Myeloid Leukemia	47	2.1	0.3	43	1.4	0.2
Miscellaneous	376	17.2	0.9	383	11.2	0.6

[~] Statistic could not be calculated.

Table 3 Total Cancer Cases and Average Annual Age-adjusted Cancer Incidence Rates (U.S. Year 2000 Standard) Rhode Island, 1998-2002, Blacks, by Sex and Anatomical Site

Males (Blacks) Females (Blacks) SITES Count <u>Rate</u> <u>SE</u> Count <u>Rate</u> <u>SE</u> All Sites 385 662 6 38.0 322 417 0 24 1 Oral Cavity and Pharynx 10 13.0 4.2 7 9.4 3.7 0 0.0 0 0.0 Lip Tongue 1 1.2 1.2 2 2.2 1.6 Salivary Gland 0 0.0 1 2.1 2 1 Floor of Mouth 27 4 5.3 0 0.0 Gum and Other Mouth 2 2.8 2.1 0 0.0 Nasopharynx 1 1.0 0 0.0 1.0 Oropharvnx 0 0.0 0 0.0 Hypopharynx 1 2 17 1.2 2 2.4 Digestive System 120.7 16.9 95.6 12.0 64 67 Esophagus 5 6.9 3.2 3 4 2 2.5 Stomach 9 18.9 15.3 5.2 14 5.2 Small Intestine 3.9 2 5 4 1 1 2 12 Colon and Rectum 26 53.9 11.8 35 51.2 8.9 Colon excluding Rectum 19 40 O 10.5 26 36.4 7.3 Rectum and Rectosigmoid Junction 7 13.8 9 14.8 5.4 5.1 Anus, Anal Canal and Anorectum 1 0.8 0.8 0 0.0 5 8.0 3.6 0 0.0 1.9 0.0 Intrahepatic Bile Duct 1 19 0 Gallbladder 2 9.3 6.9 1 1.2 1.2 9 Pancreas 13 1 17.0 4 4 12 5 1 Respiratory System 77 138.3 17.6 61 82.0 10.7 Larynx 11 19.0 6.2 3 4 1 23 Lung and Bronchus 66 119.3 16.5 57 76.6 10.4 Bones and Joints 0.9 0.9 0.8 0.8 1 1 Soft Tissue including Heart 1 1.2 1.2 3 2.8 1.7 Skin excluding Basal and Squamous 2.4 4 9 2.0 2 1 7 6 Melanoma of the Skin 0 0.0 1 1.2 1.2 Breast 5.6 3.2 92 115.7 12.4 3 Female Genital System 0 0.0 28 34.4 6.8 Cervix Uteri 0 0.0 4.8 5 22 Corpus and Uterus, NOS 0 0.0 14 192 5 2 Ovary 0 0.0 7 7.9 3.1 Male Genital System 144 259.8 0 0.0 24 1 Prostate 139 252.5 23.7 0 0.0 **Testis** 2 1.3 0.90 0.0 Penis 2 5.0 3.7 0 0.0 **Urinary System** 27 40.9 8.5 15 19.1 5.1 Urinary Bladder 21.7 13 6.7 5 7.6 3.5 Kidney and Renal Pelvis 192 11.5 14 5.3 10 3.7 Ureter 0 0.0 0 0.0 Eye and Orbit 0 0.0 0 0.0 Brain and Other Nervous System 2.5 3 4.5 2.7 3 1.4 2.5 45 27 3 1 4 3 **Endocrine System** 3 2.5 1.4 15 14.4 3.8 Thyroid 3 2.5 13 2 1.4 14 3.6 Lymphoma 23 27.9 10 10.5 3.5 6.2 Hodgkin Lymphoma 3 1 3.6 18 4 16 4 Non-Hodgkin Lymphoma 19 24.8 6.0 6 6.9 3.0 9 7 7 10.9 Myeloma 5 4 6 4 2 Leukemia 7 9.4 3.8 3 3.4 2.3 Acute Lymphocytic Leukemia 1.9 0.7 19 0.7 1 1 Chronic Lymphocytic Leukemia 1 1.0 1.0 0 0.0 Acute Myeloid Leukemia 2.7 4 7 2 22 4 2.6 Acute Monocytic Leukemia 0 0.0 0 0.0 Chronic Myeloid Leukemia 1.9 1.9 0.0 0 1 Miscellaneous 11 25.4 8.9 8 11.3 4.1

[~] Statistic could not be calculated.

Table 4 Total Cancer Cases and Average Annual Age-adjusted Cancer Incidence Rates (U.S. Year 1970 Standard) Rhode Island, 1998-2002, All Races, by Sex and Anatomical Site

	Male	Males (All Races)		Femal	Females (All Races)		
SITES	<u>Count</u>	<u>Rate</u>	<u>SE</u>	<u>Count</u>	<u>Rate</u>	<u>SE</u>	
All Sites	15,119	521.7	4.3	14,315	373.0	3.4	
Oral Cavity and Pharynx	367	12.9	0.7	188	5.0	0.4	
Lip	28	0.9	0.2	17	0.4	0.1	
Tongue	103	3.6	0.4	54	1.5	0.2	
Salivary Gland	29	1.0	0.2	33	0.7	0.1	
Floor of Mouth	29	1.0	0.2	17	0.4	0.1	
Gum and Other Mouth	46	1.6	0.2	27	0.7	0.1	
Nasopharynx	19	0.7	0.2	5	0.1	0.1	
Oropharynx	23	0.8	0.2	10	0.3	0.1	
Hypopharynx	45	1.6	0.2	11	0.3	0.1	
Digestive System	3010	101.3	1.9	2935	66.1	1.3	
Esophagus	236	8.4	0.6	78	1.8	0.2	
Stomach Small Intestine	317 55	10.3 1.8	0.6 0.3	239 59	5.0 1.5	0.4 0.2	
Colon and Rectum	1789	59.9	1.4	1858	41.5	1.1	
Colon excluding Rectum	1237	41.1	1.2	1413	31.4	0.9	
Rectum and Rectosigmoid Junction	552	18.8	0.8	445	10.2	0.5	
Anus, Anal Canal and Anorectum	29	1.0	0.2	52	1.4	0.2	
Liver	160	5.5	0.4	67	1.6	0.2	
Intrahepatic Bile Duct	28	0.9	0.2	26	0.6	0.1	
Gallbladder	26	0.8	0.2	50	1.3	0.2	
Pancreas	296	10.2	0.6	373	8.3	0.5	
Respiratory System	2701	93.6	1.8	2063	54.7	1.3	
Larynx	201	7.2	0.5	57	1.4	0.2	
Lung and Bronchus	2417	83.6	1.7	1972	52.3	1.3	
Bones and Joints	17	0.7	0.2	14	0.5	0.1	
Soft Tissue including Heart	106	3.6	0.4	79	2.4	0.3	
Skin excluding Basal and Squamous	734	25.1	0.9	520	14.4	0.7	
Melanoma of the Skin Breast	660 27	22.6 0.9	0.9 0.2	462 4054	12.9 110.4	0.6 1.8	
Female Genital System	0	0.9	0.2 ~	1570	44.2	1.0	
Cervix Uteri	0	0.0	~	206	6.1	0.4	
Corpus and Uterus, NOS	0	0.0	~	807	22.8	0.8	
Ovary	0	0.0	~	406	11.5	0.6	
Male Genital System	4441	157.0	2.4	0	0.0	~	
Prostate	4263	151.1	2.4	0	0.0	~	
Testis	148	5.0	0.4	0	0.0	~	
Penis	23	0.7	0.2	0	0.0	~	
Urinary System	1794	60.7	1.5	830	21.0	8.0	
Urinary Bladder	1249	41.9	1.2	482	11.8	0.6	
Kidney and Renal Pelvis	508	17.5	0.8	328	8.9	0.5	
Ureter Eye and Orbit	22 18	0.8 0.6	0.2 0.1	16 19	0.3 0.6	0.1 0.1	
Brain and Other Nervous System	193	6.6	0.5	176	5.2	0.4	
Brain	186	6.3	0.5	163	4.8	0.4	
Endocrine System	126	4.4	0.4	385	12.0	0.6	
Thyroid	113	3.9	0.4	367	11.4	0.6	
Lymphoma	650	22.3	0.9	633	16.5	0.7	
Hodgkin Lymphoma	89	3.2	0.4	76	2.6	0.3	
Non-Hodgkin Lymphoma	561	19.1	0.8	557	13.8	0.6	
Myeloma	152	5.0	0.4	157	3.7	0.3	
Leukemia	393	14.0	0.7	298	8.1	0.5	
Acute Lymphocytic Leukemia	53	2.4	0.3	35	1.7	0.3	
Chronic Lymphocytic Leukemia	120	4.2	0.4	81	1.8	0.2	
Acute Myeloid Leukemia	123	4.2	0.4	96	2.5	0.3	
Acute Monocytic Leukemia Chronic Myeloid Leukemia	6 48	0.2 1.6	0.1 0.2	3 43	0.1 1.0	0.1 0.2	
Miscellaneous	390	12.9	0.2	394	8.4	0.5	
	0,0	,	J.,	0,1	5.1	0.0	

[~] Statistic could not be calculated.

Table 5 Total Cancer Cases and Average Annual Age-adjusted Cancer Incidence Rates (U.S. Year 1970 Standard) Rhode Island, 1998-2002, Whites, by Sex and Anatomical Site

knode Island, 1998-2002, Whites, b	y sex and Anato	omicai site				
	Mal	es (Whites)		Females (Whites)		
SITES	<u>Count</u>	<u>Rate</u>	<u>SE</u>	<u>Count</u>	<u>Rate</u>	<u>SE</u>
All Sites	14,613	542.9	4.6	13,866	393.2	3.6
Oral Cavity and Pharynx	354	13.4	0.7	177	5.1	0.4
Lip	28	0.9	0.2	17	0.4	0.1
Tongue	102	3.9	0.4	51	1.6	0.2
Salivary Gland	27	1.0	0.2	32	0.8	0.2
Floor of Mouth Gum and Other Mouth	25 44	0.9 1.6	0.2 0.2	15 27	0.4 0.8	0.1 0.2
Nasopharynx	18	0.7	0.2	5	0.8	0.2
Oropharynx	23	0.9	0.2	9	0.3	0.1
Hypopharynx	43	1.7	0.3	9	0.3	0.1
Digestive System	2906	104.7	2.0	2845	68.6	1.4
Esophagus	230	8.8	0.6	75	1.9	0.2
Stomach	301	10.4	0.6	224	5.0	0.4
Small Intestine	52	1.9	0.3	58	1.6	0.2
Colon and Rectum	1746	62.6	1.5	1809	43.3	1.1
Colon excluding Rectum	1206	42.8	1.3	1380	32.7	1.0
Rectum and Rectosigmoid Junction	540	19.8	0.9	429	10.5	0.6
Anus, Anal Canal and Anorectum	28	1.0	0.2	51	1.4	0.2
Liver	147	5.4	0.5	64	1.7	0.2
Intrahepatic Bile Duct Gallbladder	26 23	0.9 0.8	0.2 0.2	26 48	0.7 1.3	0.1 0.2
Pancreas	286	10.5	0.6	359	8.4	0.2
Respiratory System	2608	96.9	1.9	1995	57.0	1.4
Larynx	187	7.2	0.5	54	1.4	0.2
Lung and Bronchus	2339	86.7	1.8	1908	54.6	1.3
Bones and Joints	15	0.7	0.2	12	0.5	0.1
Soft Tissue including Heart	104	3.9	0.4	74	2.5	0.3
Skin excluding Basal and Squamous	724	27.0	1.0	515	15.8	0.7
Melanoma of the Skin	656	24.5	1.0	458	14.2	0.7
Breast	24	0.9	0.2	3922	116.2	2.0
Female Genital System	0	0.0	~	1527	47.0	1.3
Cervix Uteri	0	0.0	~	196	6.6	0.5
Corpus and Uterus, NOS	0	0.0 0.0	~	790 392	24.3 12.1	0.9 0.7
Ovary Male Genital System	4277	162.3	2.5	0	0.0	0.7
Prostate	4106	155.6	2.5	0	0.0	~
Testis	144	5.7	0.5	0	0.0	~
Penis	21	0.7	0.2	0	0.0	~
Urinary System	1755	63.6	1.6	811	22.2	0.8
Urinary Bladder	1227	44.0	1.3	477	12.6	0.6
Kidney and Renal Pelvis	492	18.3	0.8	314	9.2	0.6
Ureter	21	0.8	0.2	16	0.3	0.1
Eye and Orbit	17	0.6	0.2	19	0.7	0.2
Brain and Other Nervous System	190	7.3	0.5	172	5.8	0.5
Brain	183	7.0	0.5	159	5.2	0.5
Endocrine System	120	4.8	0.5	359	12.8	0.7
Thyroid	108	4.2	0.4	342	12.1	0.7
Lymphoma Hodgkin Lymphoma	615 84	23.2 3.5	1.0 0.4	616 71	17.6 2.9	0.8 0.4
Non-Hodgkin Lymphoma	531	19.6	0.4	545	14.7	0.4
Myeloma	145	5.1	0.4	148	3.8	0.3
Leukemia	383	15.2	0.8	291	8.9	0.6
Acute Lymphocytic Leukemia	51	3.0	0.4	33	2.0	0.4
Chronic Lymphocytic Leukemia	118	4.4	0.4	81	1.9	0.2
Acute Myeloid Leukemia	119	4.5	0.4	91	2.6	0.3
Acute Monocytic Leukemia	6	0.2	0.1	3	0.1	0.1
Chronic Myeloid Leukemia	47	1.8	0.3	43	1.2	0.2
Miscellaneous	376	13.3	0.7	383	8.7	0.5

[~] Statistic could not be calculated.

Table 6 Total Cancer Cases and Average Annual Age-adjusted Cancer Incidence Rates (U.S. Year 1970 Standard) Rhode Island, 1998-2002, Blacks, by Sex and Anatomical Site

	Males (Blacks)		Fem	Females (Blacks)		
SITES	<u>Count</u>	<u>Rate</u>	<u>SE</u>	<u>Count</u>	<u>Rate</u>	<u>SE</u>
All Sites	385	551.7	29.5	322	344.8	19.7
Oral Cavity and Pharynx	10	11.8	3.9	7	7.2	2.7
Lip	0	0.0	~	0	0.0	~
Tongue	1	1.1	1.1	2	2.2	1.6
Salivary Gland	0	0.0	~	1	1.0	1.0
Floor of Mouth	4	5.1	2.7	0	0.0	~
Gum and Other Mouth	2	2.2	1.7	0	0.0	~
Nasopharynx	1	8.0	0.8	0	0.0	~
Oropharynx	0 1	0.0 1.1	- 1.1	0	0.0 2.0	1.4
Hypopharynx Digestive System	64	97.6	12.7	67	72.3	9.0
Esophagus	5	6.4	3.0	3	3.4	2.0
Stomach	9	13.3	4.5	14	14.7	4.0
Small Intestine	2	3.6	2.5	1	1.2	1.2
Colon and Rectum	26	41.3	8.4	35	37.7	6.5
Colon excluding Rectum	19	29.8	7.1	26	27.6	5.5
Rectum and Rectosigmoid Junction	7	11.5	4.4	9	10.0	3.4
Anus, Anal Canal and Anorectum	1	0.6	0.6	0	0.0	~
Liver	5	8.0	3.6	0	0.0	~
Intrahepatic Bile Duct	1	1.6	1.6	0	0.0	~
Gallbladder	2	4.9	3.5	1	1.2	1.2
Pancreas	9	12.7	4.4	12	12.9	3.8
Respiratory System	77	113.4	13.4	61	70.6	9.1
Larynx	11	16.4	5.1	3	3.7	2.2
Lung and Bronchus	66	97.0	12.4	57	65.7	8.8
Bones and Joints	1 1	0.6 1.1	0.6 1.1	1 3	0.6 2.7	0.6 1.6
Soft Tissue including Heart Skin excluding Basal and Squamous				2		
Melanoma of the Skin	6 0	4.1 0.0	1.7	1	2.5 1.2	1.8 1.2
Breast	3	4.7	2.7	92	97.1	10.4
Female Genital System	0	0.0	~	28	30.0	5.8
Cervix Uteri	0	0.0	~	5	3.8	1.8
Corpus and Uterus, NOS	0	0.0	~	14	16.4	4.4
Ovary	0	0.0	~	7	7.7	3.0
Male Genital System	144	220.0	18.9	0	0.0	~
Prostate	139	214.2	18.7	0	0.0	~
Testis	2	1.6	1.1	0	0.0	~
Penis	2	3.6	2.5	0	0.0	~
Urinary System	27	34.8	7.1	15	16.3	4.3
Urinary Bladder	13	17.3	5.1	5	5.7	2.5
Kidney and Renal Pelvis	14	17.5	4.9	10	10.6	3.5
Ureter	0	0.0	~	0	0.0	~
Eye and Orbit	0	0.0	~	0	0.0	~
Brain and Other Nervous System	3	2.2 2.2	1.3 1.3	3	3.6 3.6	2.1 2.1
Brain Endocrine System	3 3	1.9	1.3	3 15	13.0	3.5
Thyroid	3	1.9	1.1	14	11.7	3.2
Lymphoma	23	24.7	5.5	10	9.5	3.1
Hodgkin Lymphoma	4	2.9	1.5	4	3.6	1.9
Non-Hodgkin Lymphoma	19	21.7	5.3	6	5.9	2.5
Myeloma	5	8.0	3.7	7	7.9	3.0
Leukemia	7	7.5	3.1	3	2.6	1.5
Acute Lymphocytic Leukemia	1	1.6	1.6	1	0.9	0.9
Chronic Lymphocytic Leukemia	1	0.8	0.8	0	0.0	~
Acute Myeloid Leukemia	4	3.6	2.0	2	1.7	1.2
Acute Monocytic Leukemia	0	0.0	~	0	0.0	~
Chronic Myeloid Leukemia	1	1.6	1.6	0	0.0	~
Miscellaneous	11	19.0	6.0	8	8.9	3.2

[~] Statistic could not be calculated.

Table 7 Total Cancer Cases and Average Annual Age-adjusted Cancer Incidence Rates (U.S. Year 2000 Standard) Rhode Island Counties, 1998-2002, All Races, by Sex and Selected Anatomical Site

	Male	Males (All Races)			Females (All Races)			
COUNTIES / SITES	<u>Count</u>	<u>Rate</u>	<u>SE</u>	<u>Count</u>	<u>Rate</u>	<u>SE</u>		
All Counties								
All Sites	15,119	628.9	5.1	14,315	444.5	3.8		
Oral Cavity and Pharynx	367	15.0	0.8	188	5.9	0.4		
Colon and Rectum	1,789	75.3	1.8	1,858	52.6	1.3		
Lung and Bronchus	2,417	100.1	2.0	1,972	60.9	1.4		
Melanoma of the Skin	660	27.3	1.1	462	15.3	0.7		
Breast Cervix Uteri	27 0	1.2 0.0	0.2	4,054 206	130.6 7.3	2.1 0.5		
Ovary	0	0.0	~	406	13.2	0.5		
Prostate	4,263	176.8	2.7	0	0.0	~		
Bristol								
All Sites	842	629.5	21.9	726	428.6	16.3		
Oral Cavity and Pharynx	20	15.2	3.4	11	7.3	2.2		
Colon and Rectum	92	70.0	7.4	87	44.8	4.9		
Lung and Bronchus	123	91.6	8.3	80	44.8	5.1		
Melanoma of the Skin	45	34.8	5.2	23	14.1	3.0		
Breast	3	2.1	1.2	219	138.5	9.5		
Cervix Uteri	0	0.0	~	5	3.6	1.7		
Ovary	0	0.0	~ 44 F	22	13.2	2.9		
Prostate	237	175.5	11.5	0	0.0	~		
Kent All Cit	2 (05	// 4.5	12.0	2.522	4/0.0	0.5		
All Sites	2,695	664.5	13.0	2,522	469.9	9.5		
Oral Cavity and Pharynx	68 341	16.9 85.2	2.1 4.7	32 318	6.0 54.8	1.1 3.1		
Colon and Rectum	459	65.2 111.4	5.2	367	66.8	3.1		
Lung and Bronchus Melanoma of the Skin	459 109	26.4	2.6	367 82	16.2	3.5 1.8		
Breast	2	0.5	0.4	748	143.0	5.3		
Cervix Uteri	0	0.0	~	38	8.1	1.3		
Ovary	0	0.0	~	69	13.2	1.6		
Prostate	736	180.8	6.7	0	0.0	~		
Newport								
All Sites	1,273	610.5	17.3	1,232	468.5	13.5		
Oral Cavity and Pharynx	41	18.9	3.0	23	8.9	1.9		
Colon and Rectum	158	77.9	6.3	154	55.0	4.5		
Lung and Bronchus	156	74.6	6.0	184	69.5	5.2		
Melanoma of the Skin	60	27.9	3.6	47	18.5	2.7		
Breast	3	1.3	0.7	356	138.4	7.4		
Cervix Uteri Ovary	0	0.0 0.0	~	18 37	7.4 14.6	1.8 2.4		
Prostate	432	203.9	9.9	0	0.0	~		
	432	203.9	7.7	Ü	0.0	~		
<u>Providence</u>	0.4/5	(15.2	/ 7	0.000	425.5	4.0		
All Sites	8,465 187	615.3 13.5	6.7 1.0	8,280 103	435.5 5.4	4.9 0.5		
Oral Cavity and Pharynx	995	72.9	2.3	1,103	51.9	1.6		
Colon and Rectum Lung and Bronchus	1,434	72.9 104.1	2.3	1,103	51.9	1.8		
Melanoma of the Skin	339	24.5	1.3	234	13.5	0.9		
Breast	18	1.4	0.3	2,238	122.8	2.7		
Cervix Uteri	0	0.0	~	127	7.8	0.7		
Ovary	0	0.0	~	234	13.2	0.9		
Prostate	2,246	163.7	3.5	0	0.0	~		
Washington								
All Sites	1,844	658.4	15.5	1,555	443.2	11.3		
Oral Cavity and Pharynx	51	17.5	2.5	19	5.5	1.3		
Colon and Rectum	203	74.7	5.3	196	54.0	3.9		
Lung and Bronchus	245	86.7	5.6	219	63.1	4.3		
Melanoma of the Skin	107	37.6	3.7	76	21.9	2.5		
Breast Cervix Uteri	1 0	0.3 0.0	0.3	493 18	141.7 5.6	6.4 1.3		
Ovary	0	0.0	~	44	5.6 12.7	1.3		
Prostate	612	217.1	8.9	0	0.0	1.9		
11031410	012	217.1	0.7	O	0.0	-		

[~] Statistic could not be calculated.

Table 8 Total Cancer Cases and Average Annual Age-adjusted Cancer Incidence Rates (U.S. Year 1970 Standard) Rhode Island Counties, 1998-2002, All Races, by Sex and Selected Anatomical Site

	Males (All Races)			Female	Females (All Races)			
COUNTIES / SITES	<u>Count</u>	<u>Rate</u>	<u>SE</u>	<u>Count</u>	<u>Rate</u>	<u>SE</u>		
All Counties								
All Sites	15,119	521.7	4.3	14,315	373.0	3.4		
Oral Cavity and Pharynx	367	12.9	0.7	188	5.0	0.4		
Colon and Rectum	1,789	59.9	1.4	1,858	41.5	1.1		
Lung and Bronchus	2,417	83.6	1.7	1,972	52.3	1.3		
Melanoma of the Skin	660	22.6	0.9	462	12.9	0.6		
Breast	27	0.9	0.2	4,054	110.4	1.8		
Cervix Uteri	0	0.0	~	206	6.1	0.4		
Ovary	0	0.0	~	406	11.5	0.6		
Prostate	4,263	151.1	2.4	0	0.0	~		
<u>Bristol</u>								
All Sites	842	521.0	18.5	726	356.2	14.3		
Oral Cavity and Pharynx	20	13.3	3.0	11	6.7	2.1		
Colon and Rectum	92	54.1	5.8	87	33.3	3.9		
Lung and Bronchus	123	74.1	6.9	80	37.6	4.5		
Melanoma of the Skin	45	29.5	4.5	23	11.7	2.6		
Breast	3	1.8	1.0	219	117.6	8.4		
Cervix Uteri	0	0.0	~	5	2.6	1.2		
Ovary Prostate	0	0.0	~	22	11.6	2.7		
Prostate	237	151.6	10.1	0	0.0	~		
<u>Kent</u>								
All Sites	2,695	549.5	10.8	2,522	395.9	8.4		
Oral Cavity and Pharynx	68	14.2	1.8	32	5.0	0.9		
Colon and Rectum	341	68.4	3.8	318	43.3	2.6		
Lung and Bronchus	459	93.4	4.4	367	57.1	3.2		
Melanoma of the Skin	109	22.4	2.2	82	13.3	1.5		
Breast	2	0.4	0.3	748	122.1	4.7		
Cervix Uteri	0	0.0	~	38	7.0	1.2		
Ovary Prostate	0 736	0.0 153.0	~ 5.7	69 0	11.2 0.0	1.4		
riostate	730	155.0	5.7	U	0.0	~		
<u>Newport</u>								
All Sites	1,273	511.9	14.5	1,232	397.3	12.0		
Oral Cavity and Pharynx	41	16.0	2.5	23	7.5	1.6		
Colon and Rectum	158	61.7	5.0	154	44.1	3.8		
Lung and Bronchus	156	63.1	5.1	184	60.8	4.7		
Melanoma of the Skin	60	23.8	3.1	47	15.6	2.4		
Breast	3	1.3	0.7	356	118.9	6.5		
Cervix Uteri	0	0.0	~	18	6.3	1.5		
Ovary Prostate	0	0.0	~	37	13.0	2.3		
Prostate	432	177.8	8.6	0	0.0	~		
<u>Providence</u>								
All Sites	8,465	509.7	5.7	8,280	364.5	4.4		
Oral Cavity and Pharynx	187	11.8	0.9	103	4.5	0.5		
Colon and Rectum	995	58.1	1.9	1,103	41.0	1.4		
Lung and Bronchus	1,434	86.8	2.3	1,122	50.8	1.6		
Melanoma of the Skin	339	19.9	1.1	234	11.4	0.8		
Breast	18	1.0	0.3	2,238	103.1	2.3		
Cervix Uteri	0	0.0	~	127	6.4	0.6		
Ovary Prostate	0 2,246	0.0 139.3	3.0	234 0	11.4 0.0	0.8		
	_,			-				
<u>Washington</u> All Sites	1,844	548.4	12.9	1,555	372.4	9.9		
Oral Cavity and Pharynx	51	13.9	2.0	1,555	4.6	1.1		
Colon and Rectum	203	59.0	4.2	196	4.6 42.8	3.2		
Lung and Bronchus	245	73.8	4.8	219	54.6	3.8		
Melanoma of the Skin	107	31.9	3.1	76	18.7	3.6 2.2		
Breast	107	0.4	0.4	493	119.4	5.6		
Cervix Uteri	0	0.0	~	18	5.0	1.2		
Ovary	0	0.0	~	44	11.5	1.8		
Prostate	612	186.0	7.6	0	0.0	~		
		-	-	-				

[~] Statistic could not be calculated.